

Serial No.: 08/321,552
Filed: October 12, 1994

The applicants submit that the wording of this rejection is somewhat confusing; the applicants assume that this is actually three separate §103 rejections, each over a single reference. For the sake of completeness however, the applicants argue the references taken either alone or in combination.

The present invention teaches compositions and methods using delivery vehicles which can specifically deliver physiological agents such as contrast agents and therapeutic agents. The delivery vehicles generally comprise four elements: (1) a first polymeric molecule having a net positive or negative charge; (2) a second polymeric molecule having a net charge opposite to the first polymeric molecule; (3) a cell targeting moiety attached to the second polymeric molecule; and (4) a physiological agent attached to either the first or second polymeric molecule (or a third polymeric molecule similar to the second polymeric molecule). The physiological agent can be a therapeutic agent, such as a drug, hormone, enzyme, protein or peptide, anti-cancer agent, etc., or a contrast agent, such as magnetic resonance imaging contrast agents, radioisotope contrast agents, gamma emitter contrast agents, positron emitter contrast agents, beta emitter contrast agents and optical contrast agents, including fluorescent contrast agents. The applicants submit that none of the prior art references, taken alone or in combination, teaches or suggests the present invention.

Wagner et al. teaches compositions and methods using complexes with three components: (1) a DNA molecule; (2) a polycation; and (3) transferrin molecules. Wagner et al. does not teach or suggest the addition of a physiological agent such as a therapeutic agent or contrast agent.

As stated in M.P.E.P. §2142, three basic criteria must be met to establish a *prima facie* case of obviousness. First of all, there must be some motivation to practice the invention. Second, there must be a reasonable

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expectation of success. Finally, the prior art must teach or suggest all of the claim limitations.

Wagner et al. does not teach or suggest the addition of a physiological agent such as a therapeutic agent or contrast agent, nor does Wagner suggest a reasonable expectation of success. Finally, Wagner, taken alone, does not teach a physiological agent. Therefore, the rejection under 35 U.S.C. §103 is improper, and the rejection should be withdrawn.

Ryser et al., (U.S. Patent No. 4,847,240, hereinafter the '240 patent, and U.S. Patent No. 4,701,521, hereinafter the '521 patent) discusses the enhanced uptake of drugs such as proteins, enzymes, hormones, etc. by conjugating them, covalently, to a cationic polymer such as polylysine. For example, Ryser et al. shows the attachment of proteins and nucleotides to a polyamine. Therefore, the compositions of Ryser et al. contain two components: (1) a drug; and (2) a polycation such as polylysine.

As above, the Ryser et al. references do not meet the three basic criteria of a *prima facie* case of obviousness. There is no suggestion to add either a second polymeric molecule with a net charge opposite to the first polymer (i.e. a polyanion) or a cell targeting moiety, with a reasonable expectation of success.

Even taken together, none of the references provides the required motivation to practice the invention. Wagner et al. was concerned with elucidating the mechanism of the transferrinfection process. Ryser et al. was concerned with increasing the cellular uptake of certain compounds. There simply is no motivation to practice the invention. In addition, as outlined in M.P.E.P. §2142, the initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done.

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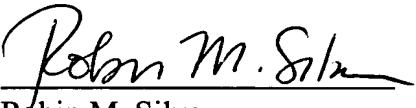
Accordingly, the applicants submit that the prior art references, taken alone or in combination, do not render the present invention, taken as a whole at the time the invention was made, obvious to a person skilled in the art.

Finally, the applicants acknowledge the allowance of claim 16 and the allowability of claims 10-13, 18 and 20-21.

The applicant maintains that the claims are now in condition for allowance and an early notification of such is solicited.

Respectfully submitted,

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